

This service summarizes current satellite mapping activities of interest to GDACS stakeholders. It is issued weekly and based on contributions from map-producing entities and GDACS partners.

Satellite mapping overview

As of 14 September 2015

Asia

Bangladesh floods – GLIDE number: TBD

The north and central regions of Bangladesh recently experienced floods that have affected more than twenty districts in the country. Although no inhabitants appear to have been physically harmed, many homes and roads were affected. According to reports, 14 major rivers in the country attained high levels that constitute a significant danger. The International Charter on Space and Major Disasters was activated on 07 September 2015 by the Asia Disaster Reduction Center on behalf of the Bangladesh Space Research and Remote Sensing Organization. Project management was assumed by the Asian Institute of Technology (AIT), which has since produced a map of flooded areas in northern and central Bangladesh using satellite imagery acquired 07 September 2015. Possible flood affected areas displayed in the map include Gaibandha, Serpur, Jamalpur, Kurigram, Rangpur, Bogra, Sirajganj, Tangail, and Manikganj. Concern remains that stagnant flood waters may cause outbreaks of disease. The AIT map product is available for online viewing and download in JPEG format on the International Charter on Space and Major Disasters website.

Sources: International Charter on Space and Major Disasters, Asian Institute of Technology

Link: <https://www.disasterscharter.org/web/guest/-/flood-in-banglade-1>

Indonesia fires – GLIDE number: TBD

On 14 September 2015, smoke from forest fires burning in Sumatra caused Indonesia to declare a state of emergency in Riau province. As a result of the smoke, tens of thousands of people became ill, schools were closed, and flights cancelled. Air quality has also declined substantially in parts of Malaysia and Singapore. The NASA Earth Observatory collected 05 September 2015 satellite imagery of fires burning in Sumatra's Jambi province. Subsequent overview maps show actively burning fires, burn scars, and large plumes of smoke moving in a northwestern direction. The fires were observed to be burning within clearly marked rectangular grids, suggesting an agricultural origin which most likely consists of slash-and-burn practices on a palm oil plantation. Indonesia is the world's largest producer of palm oil and profits considerably from this crop. As of 14 September 2015, 982 hot spots were detected in Sumatra, the highest number in two months. Map products are available for online viewing and download in JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=86596&eocon=home&eoci=nh>

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Japan tropical cyclone – GLIDE number: TC-2015-000124-JPN

Tropical cyclone Etau made landfall over Japan's Aichi prefecture on 09 September 2015. Heavy rainfall and strong winds led to an evacuation of 200,000 Japanese citizens in affected areas. The NASA Earth Observatory used satellite data from 06 to 10 September 2015 to create a map of estimated total rainfall over this period. Central and eastern Japan appear to have received most of the cyclone's precipitation. Several cities experienced record-setting amounts of rain and on 10 September 2015 overflowing rivers caused flooding in the Ibaraki and Tochigi prefectures. The NASA Earth Observatory also produced an overview map of the tropical cyclone using satellite imagery acquired 08 September 2015. At this time, Etau was visible covering a large portion of Japan as well as part of the Pacific Ocean. Rainfall was reported to exceed 500 millimeters in the Ibaraki and Tochigi prefectures on this day, double the amount that usually occurs during the month of September. Overall, Etau caused devastating floods which damaged or destroyed at least 7,000 homes and buildings, led to more than 60 landslides, and left at least 9 people missing. Map products are available for online viewing as well as download in PNG and JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=86584&eocn=home&eoci=nh>

Myanmar floods – GLIDE number: FL-2015-000089-MMR

Torrential rainfall at the onset of the monsoon season caused severe flooding in several parts of Myanmar. The western regions of Chin, Magway, Sagaing and Rakhine were declared disaster zones by the government. In an effort to aid disaster response, UNITAR-UNOSAT began work for this event on 13 July 2015 and triggered the International Charter on Space and Major Disasters on 05 August 2015 on behalf of the UNDP Myanmar. Past analyses conducted by UNITAR-UNOSAT revealed a total of more than 895,300 hectares of flood affected land in parts of the Rakhine, Sagaing, Bago, Magway, Kayin and Mon States. UNITAR-UNOSAT recently released a map of flood waters over western Sagaing. Using satellite imagery acquired 04 September 2015, UNITAR-UNOSAT identified a total of approximately 111,000 hectares of flood affected land in areas of Homalin, Tamu, Phaungbyin and Mawlaik townships. The Copernicus Emergency Management Service also published new flood maps for the areas of Bogale, Hinthada, Irrawaddy Delta, Kaiklat, Kyauktan, Kyondadun, Labutta, Monyo, Pathein, Pathwe, Pyay, Pyinsalu, Yegy, eastern and western Yangon. Analysis of satellite imagery acquired 04, 08 and 13 September 2015 revealed a total of approximately 781,974 hectares of flood affected land and 1,470,959 impacted inhabitants in most of these areas. Live and static UNITAR-UNOSAT map products are available for online viewing and PDF download on its website, along with data in ESRI shapefile and geodatabase formats. Copernicus map products are available in TIFF, PDF, and JPEG formats on its website. Data can also be accessed there in shapefile and KML formats.

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Sources: UNITAR-UNOSAT, International Charter on Space and Major Disasters, Copernicus Emergency Management Service

Links: <http://www.unitar.org/unosat/maps/MMR>

<https://www.disasterscharter.org/web/guest/-/flood-in-myanmar>

<http://emergency.copernicus.eu/mapping/list-of-components/EMSR130>

Europe

Spain floods – GLIDE number: EMSR135*

On 07 September 2015, torrential rains caused flash floods to occur in southeast Spain. The regions of Andalucía, Murcia and Valencia were particularly affected. In response to this event, the Copernicus Emergency Management Service produced grading maps for the areas of Albuñol and La Rabita. Analysis of satellite imagery acquired 11 September 2015 revealed 8.8 hectares of land affected by mudflow and 4.3 hectares impacted by landslides in Albuñol. Additionally, 1.67 kilometers of local roads, 33 agricultural areas, and 3 inhabitants were directly affected by the flash floods in this city. In La Rabita, 2 hectares of land were affected by mudflow and 33 agricultural areas were impacted by flooding. As of 14 September 2015, ten people had died in Andalucía and Murcia as a result of this event. Homes were also damaged, two bridges collapsed, and roads forced to close. Map products are available in TIFF, PDF, and JPEG formats on the Copernicus Emergency Management Service website. Accompanying data in shapefile and KML formats are also accessible on this website.

Source: Copernicus Emergency Management Service

Link: <http://emergency.copernicus.eu/mapping/list-of-components/EMSR135>

Middle East

Iraq dust storm – GLIDE number: TBD

A massive dust storm that originated over Iraq on 06 September 2015 recently engulfed western parts of the Middle East and some areas in northern Africa. The NASA Earth Observatory acquired satellite imagery of the dust storm on 07 and 08 September 2015 and created two overview maps. On 07 September 2015, a thick plume of dust was visible covering most of Syria, the Mafraq region of Jordan, a portion of the Turkish Mediterranean coast, as well as parts of eastern Cyprus, northern Lebanon, and western Iraq. By 08 September 2015, most of these countries were enveloped in more dust which had also spread farther to northeastern Egypt, Israel, and the Palestinian Territories. According to media reports, the sudden wave of dust resulted in numerous health problems, flight cancellations, closed ports, and interruptions of many daily activities. Map products are available for

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online viewing as well as download in GeoTIFF and JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=86571&eocn=home&eoci=nh>

North America

United States wildfires – GLIDE number: WF-2015-000103-USA

High temperatures and years of drought in California have contributed to the state's worst wildfire season in memory. At present there are 13 large wildfires are burning in the northern portion of the state. Recently the governor of California declared a state of emergency after fires forced about 23,000 people to evacuate their homes. The NASA Earth Observatory acquired satellite imagery on 07 September 2015 of the Rough Fire in California's Sierra National Forest. An overview map shows more than a dozen hot spots within the vicinity of Kings Canyon National Park. Heavy smoke plumes emanating from these hot spots are also visible moving to the north and as far west as Fresno. Regarded as one of the largest fires in California's history, the Rough Fire was caused by lightning and has been active since late July 2015. As of 14 September 2015, it had burned through more than 128,800 acres of land and was 29% contained. Approximately 3,000 firefighters are attempting to further control the fire. This map product is available for online viewing as well as download in GeoTIFF and JPEG format on the NASA Earth Observatory website.

Source: NASA Earth Observatory

Link: <http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=86569&eocn=home&eoci=nh>

This summary is compiled by the GDACS mapping & satellite imagery coordination mechanism, operated by the UNITAR Operational Satellite Applications Programme (UNOSAT).

When referring to this summary, please credit: GDACS, UNITAR-UNOSAT.

For comments, questions and to submit information on satellite image derived products, please contact: maps@gdacs.org

Sources indicate satellite analysis production entities and imagery providers. The products referenced in this summary are based on remote satellite imagery and may not be validated in the field prior to release, in which case findings are based only on what is observed in the satellite imagery.

**Not an official GLIDE number, as event has no entry in GLIDE database, but used by GDACS for seamless information integration.*